WHAT IS CLAIMED IS:

1. A method for making a plurality of electrical components and elements on a monolithic substrate having a first and a second parallel surface, essentially of a crystalline or polycrystalline wide-bandgap semiconductor compound in oxygen containing atmosphere, said method comprising, the steps of:

a. directing a focused laser beam onto a surface portion of said substrate and causing relative motion between said beam and substrate so as to laser synthesize a conductive hole or via through said substrate between said first and second parallel surfaces thereof, said via having a first and second end;

b. directing said laser beam onto said first surface portion of said substrate and causing relative motion between said beam and substrate so as to laser synthesize an area thereon which is converted to a semiconductor material and which is connected to said first end of said conductive via;

c. directing said laser beam onto said first surface portion of said substrate and causing relative motion between said beam and substrate so as to delineate a continuous conductive trace connected to said semiconductive material on said first parallel surface to said second parallel surface as said laser beam traverses a surface of said substrate connecting said first and second parallel surfaces ,and terminating said trace with an electrical tab formed thereon by laser synthesis with said laser beam; and

d. directing said laser beam onto said first surface portion of said substrate and causing relative motion between said beam and substrate so as to laser synthesize an area thereon which is converted to an electrical conductive area connected to said second end of said conduc-

tive via, to thereby provide an electrical connection to said semiconductive material on the reverse side of said substrate.

2. A method for making a plurality of electrical components, elements and electro-conductive traces on a monolithic substrate having a first and a second reverse surface, essentially of a crystalline or polycrystalline wide-bandgap semiconductor compound, said method comprising, the steps of:

a. providing a monolithic wide-bandgap semiconductor compound substrate responsive to laser synthesis conversion;

b. directing a focused laser beam onto a surface portion of said substrate and causing relative motion between said beam and substrate so as to laser synthesize a plurality of electronic elements, components and electro-conductive traces, including diodes; thermo-resistive, piezoresistive and chemoresistive sensors; (p-n-p) or (n-p-n)-type transistors; and (p-n-p)-type channel transistors thereon; and

c. directing said laser beam onto said substrate and causing relative motion between said beam and substrate so as to delineate conductive traces thereon so as to form interconnections between said plurality of electronic elements and components.

3. A method of claim 2, in which a plurality of elements, components and electroconductors are also formed on said reverse side of said substrate, and are selectively connected to one another by conductive vias formed in and extending through said substrate.

4. A method for making a plurality of electrical components and elements on a film essentially of a crystalline or polycrystalline wide-bandgap semiconductor compound in a metallo-organic containing atmosphere, said method comprising, the steps of:

a. providing a vapor deposition chamber and system for depositing selected films on a support substrate contained therein ;

b. depositing a film of a crystalline or polycrystalline wide-bandgap semiconductor on a support substrate contained in said chamber by vapor deposition techniques;

c. providing a plurality of metallo-organic dopants containing gas/vapor for use in said chamber at selected processing steps to thereby cause chemical changes in selected areas of said film; and

d. directing a focussed laser beam onto a surface portion of said film disposed in said chamber and causing relative motion between said beam and film so as to laser synthesize a plurality of electronic devices and circuit elements thereon .

5. A method of claim 4, in which said laser is of a type selected from the group consisting of Nd:YAG, frequency doubled Nd:YAG or Excimer lasers, and said film is a wide-bandgap semiconductor compound of a material selected from the group including Aluminum Nitride, Silicon Carbide, Boron Nitride, Gallium Nitride or diamond.

6. A method of claim 4, in which said metallo-organic dopants that are selected from the group including di-borane, silane, phosphine, titanium tetra chloride, titanium ethoxide, aluminum sec-butoxide, tetra carbonyl, tungsten hexafluride and nitrogen.

7. A method for making a diode device laser synthesized directly onto a monolithic substrate of essentially of a crystalline or polycrystalline wide-bandgap semiconductor compound, said method comprising, the steps of:

a. providing a monolithic wide-bandgap semiconductor compound substrate responsive to laser synthesis conversion:

b. converting a first section of said substrate to a p-type semiconductive carrier by laser synthesis;

c. converting a second section of said substrate to a n-type semiconductive carrier by laser synthesis adjacent to said first p-type carrier section, to thereby form a junction therebetween; and

d. inscribing on said substrate by laser synthesis remote from said junction a first conductor connected to said first p-type section and a second electro-conductor connected to said second n-type section, to provide electrical connections to said p-type and n-type sections on said substrate to thereby form a p-n type carrier diode device on said substrate.

8. A method of claim 7, in which said monolithic wide-bandgap semiconductor compound substrate is of a material selected from the group consisting of Aluminum Nitride, Silicon Carbide, Boron Nitride, Gallium Nitride and diamond.

9. A method of claim 7, in which said laser is of a type selected from the group consisting of Nd:YAG, frequency doubled Nd:YAG or Excimer lasers.

10. A method for making a transistor device by laser synthesis directly onto a monolithic substrate of essentially of a crystalline or polycrystalline wide-bandgap semiconductor compound, said method comprising, the steps of:

a. providing a monolithic wide-bandgap semiconductor compound substrate having a reverse side and of essentially n-type semiconductive carriers responsive to laser synthesis conversion;

b. converting a first section of said substrate to a p-type semiconductive carrier by laser synthesis;

c. converting a second section of said substrate to a p-type semiconductive carrier by laser synthesis spaced apart from said first p-type carrier section, to thereby form a separation therebetween;

d. inscribing on said substrate by laser synthesis a first conductor connected to said first p-type section and a second conductor connected to said second p-type section, to provide electrical connections to

e. inscribing on said reverse side of said substrate a third said p-type sections on said substrate, and conductor, said conductors providing means for connecting said device to other and external components, elements and circuits, and to thereby provide a p-n-p type semiconductor transistor

11. A method for making a transistor device of claim 10, which includes the steps of placing said p-n-p transistor in a hermetically sealed chamber having a laser beam transmission window therein, and forming a first dielectric layer on a surface of said substrate disposed between said spaced apart p-type carrier sections and a second conductor layer on top of said dielectric layer by

means of laser synthesis and various selected metallo-organic gases introduced into said chamber, and said laser beam is directed into said chamber through said chamber window for producing said dielectric and conductor layers on said device, to thereby produce a (p-n-p)-type channel transistor.

12. A method for making a transistor device of claim 10, in which said laser is of a type selected from the group consisting of Nd:YAG, frequency doubled Nd:YAG or Excimer lasers , said substrate is a wide-bandgap semiconductor compound of a material selected from the group including of Aluminum Nitride, Silicon Carbide, Boron Nitride, Gallium Nitride or diamond and said gases are selected from the group consisting of phosphine gas, di-borane gas, tungsten hexafloride gas, titanium tetra chloride gas, titanium ethoxide gas, aluminum sec-butoxide gas silane gas and tetra carbonly nickel gas.

13. A sensor device laser synthesized directly onto a monolithic wide-bandgap semiconductor compound substrate, the combination comprising:

a. a monolithic wide-bandgap semiconductor compound substrate responsive to laser synthesis conversion;

b. a delineated pattern inscribed on a first surface of said substrate, having input and output ends, by a controlled focussed laser beam defining a thermoresistive area having resistive properties in the range of 10^9 to 10^{-6} ohm-cm, that is responsive to environmental changes applied thereto; and

c. at least two conductors inscribed on said first surface of said substrate, one of said conductors connected to said input end of said delineated pattern and another connected to said output end thereof, to thereby provide electrical connections to said thermoresistive sensor.

14. A device of claim 13, in which said monolithic wide-bandgap semiconductor compound substrate is of a material including selections from the group including Aluminum Nitride, Silicon Carbide, Boron Nitride, Gallium Nitride or diamond.

15. A device of claim 13, in which said laser is of a type selected from the group consisting of Nd:YAG , frequency doubled Nd:YAG or Excimer lasers.

16. A device of claim 13, in which said sensor device is a thermoresistive sensor device sensitive to thermal environmental changes.

17. A device of claim 13, in which said sensor device is a piezoresistive sensor device sensitive to pressure, tension or torsion environmental changes applied thereto.

18. A device of claim 13, in which said sensor device is a chemoresistive sensor device sensitive to chemical environmental changes applied thereto.

19. A circuit having a plurality of electronic components and devices inscribed insitu on a selected monolithic wide-bandgap semiconductor compound substrate directly by a laser beam, wherein the electronic components and devices are inherently compatible with the substrate upon

which they reside, with respect to their respective thermal coefficients of expansion, exhibiting higher thermal conductivity and dielectric constant properties insitu, the combination comprising:

a. a monolithic substrate of crystalline or polycrystalline wide-bandgap semiconductor compound material responsive to direct conversion by selected laser beams, the conversion ranging from an electrical insulator to an electrical semiconductor and/or electrical conductor;

b. a plurality of electronic components and devices inscribed on surfaces of said substrate directly by a focussed laser beam impinging upon selected areas converting said areas to a plurality of devices such as electronic sensors, diodes, transistors and conductors in said selected areas of said substrate; and

c. a plurality of conductors inscribed onto surfaces of said substrate interconnecting said plurality of components and devices in a selected circuit configuration to provide an operable electronic circuit.

20. An electronic circuit of claim 19, in which said laser is of a type selected from the group consisting of Nd:YAG, frequency doubled Nd:YAG or Excimer lasers, and said substrate is a wide-bandgap semiconductor compound of a material selected from the group including Aluminum Nitride , Silicon Carbide, Boron Nitride, Gallium Nitride and diamond.

21. A circuit having a plurality of electronic components and devices inscribed insitu on a selected wide-bandgap semiconductor compound film directly by a laser beam, wherein the electronic components and devices are inherently compatible with the film upon which they reside, with respect to their respective thermal coefficients of expansion, exhibiting higher thermal conductivity and dielectric constant properties insitu , the combination comprising:

a. a film of crystalline or polycrystalline wide-bandgap semiconductor compound material disposed on a support substrate, said film being responsive to direct conversion by selected laser beams, the conversion ranging from an electrical insulator to an electrical semiconductor and/or electrical conductor;

b. a plurality of electronic components and devices inscribed on said film directly by a focussed laser beam impinging upon selected areas converting said areas to a plurality of devices such as electronic sensors, diodes, transistors and conductors in said selected areas of said film; and

c. a plurality of conductors inscribed onto surfaces of said film interconnecting said plurality of components and devices in a selected circuit configuration to provide an operable electronic circuit.

22. An electronic circuit of claim 21, in which said laser is of a type selected from the group consisting of Nd:YAG, frequency doubled Nd:YAG or Excimer lasers, and said film is a wide-bandgap semiconductor compound of a material selected from the group including Aluminum Nitride, Silicon Carbide, Boron Nitride, Gallium Nitride or diamond.

23. An electronic circuit of claim 21, in which successive film layers are stacked on one another each having devices and circuitry formed on each layer to produce a multi-layer three dimension integrated circuit structure.